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**REMARKS****Claim Rejections - 35 USC §103(a)**

1. The Examiner's rejection of Claims 1, 3-5, 7, 8, 10-12, 14-22, 41, 43-45, 47, 48, 50-52, 54, 55, 57-59, 61, 63-65, 67, 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (5,404,713) in view of any of Tindell (5,447,283), Creasey et al. (2,956,759), Bullock (3,302,657), and Kerry et al. (2,940,692) and optionally in view of any of EP 0,567,277,A1, Krebs et al. (3,673,802) and Gruner (4,159,624) has been studied and the Applicant respectfully disagrees with the Examiner. The Examiner's rejection of Claims 1, 3-5, 7, 8, 10-12, 14-22, 41, 43-45, 47, 48, 50-52, 54, 55, 57-59, 61, 63-65, 67, 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0,567,277,A1 in view of any of Tindell (5,447,283), Creasey et al. (2,956,759), Bullock (3,302,657), and Kerry et al. (2,940,692) and optionally in view of any of Johnson (5,404,713), Krebs et al. (3,673,802) and Gruner (4,159,624) has been studied and the Applicant respectfully disagrees with the Examiner.

The Examiner's reasoning for making the combinations in the 103 rejections is that it would have been obvious to one of ordinary skill in the art to employ a fixed geometry inlet duct with the configuration above, in order to provide a well known type of inlet for the gas turbine engine of Johnson or EP 0,567,277,A1. The Applicant respectfully submits that such a rejection has no basis in law and is impermissible and the Examiner used hindsight in making the rejection.

The Applicant refers the Examiner to the MPEP 706.02(j) "Contents of a 35 U.S.C. 103 Rejection - 700 Examination of Applications" 706.02(j) Contents of a 35 U.S.C. 103 Rejection 35 U.S.C. 103 authorizes a rejection where, to meet the claim,

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it is necessary to modify a single reference or to combine it with one or more other references. After indicating that the rejection is under 35 U.S.C. 103, the Examiner should set forth in the Office Action:

(A) the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,

(B) the difference or differences in the claim over the applied reference(s),

(C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and

(D) an explanation why one of ordinary skill in the art, at the time the invention was made, would have been motivated to make the proposed modification.

The Examiner states that the secondary references teach the various fixed geometry inlet ducts recited in the rejected Claims but fails to give any reason or motivation to combine the references as required by the MPEP and the law. The Examiner also overlooked the fact that the secondary references relied upon to show fixed inlet ducts were attached to non-variable cycle engines and that the present Application expressly calls out a FLADE engine which is described in the specification as being a variable cycle engine and, thus, that the prior art used variable geometry inlets to achieve the flow benefits provided by the FLADE engine.

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The MPEP further states "To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

The MPEP states that the initial burden is on the Examiner to provide some suggestion of the desirability of doing what the inventor has done and that to support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. The Examiner has failed to do so and has ignored the teaching of the prior art as pointed out in the Specification of the present Application.

Paragraph 0017 of the present Application states the following "A FLADE engine (FLADE being an acronym for "fan on blade") is one particular type of variable cycle engines characterized by an outer fan driven by a radially inner fan and discharging its flade air into an outer fan duct which is generally co-annular with and circumscribes an inner fan duct circumscribing the inner fan.". None of the engines disclosed

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in the secondary references cited by the Examiner show a variable cycle engine or any type, except EP 0,567,277,A1 which discloses a FLADE engine and does not disclose an inlet duct, together with "a fixed geometry inlet duct in direct flow communication with the engine inlet", with an element of all the Claims.

Furthermore, the EP 0,567,277,A1 reference does disclose a Flade engine but does not disclose or even mention "a fixed geometry inlet duct in direct flow communication with the engine inlet". The Applicant respectfully disagrees with the Examiner's contention that Bullock teaches a fixed geometry inlet duct 2 in direct flow communication with the engine 12 inlet. Referring to Column 2, lines 37-45 of Bullock, Bullock clearly states that some of the air which enters the inlet end of the duct may be allowed to escape through a variable aperture in the duct. The variable aperture may be a vent 4 as illustrated and disclosed in the figure.

The FLADE engine in the Johnson reference is for avoiding spillage and excess sucking and the resulting decreased in ram recovery and spillage drag. This does not appear to be applicable to the long inlet ducts disclosed in the secondary references and nothing in the prior art even suggests such a combination. The Johnson reference states that the FLADE engine has important the air-flow matching characteristics illustrated by a free stream flow area  $A_0$  and the FLADE engine inlet area  $A_I$  through which the total engine airflow passes and that for a given set of operating flight conditions, the airflow requirements are fixed by the pumping characteristics of the FLADE engine 1. If  $A_I$  is too small to handle the air, the engine must "suck in" the lacking amount of air resulting in a decreased ram recovery and if  $A_I$  is too large, the FLADE engine inlet 13 will supply more air than the engine can use

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resulting in excess drag (spillage drag) because we must either by-pass the excess air around the engine or "spill" it back out of the inlet. The Applicant respectfully submits that in light of this teaching in the Johnson reference, it would not have been obvious to one of ordinary skill in the art to employ a fixed geometry inlet duct with the configuration above, in order to provide a well known type of inlet for the gas turbine engine of Johnson as contended by the Examiner and, in fact, may teach against a employing a fixed duct with a FLADE engine.

Clearly, the Examiner used impermissible hindsight to make the combination for the 103 rejections. It would appear that the Examiner has no basis in fact or anything even suggested in the prior art to arrive at the conclusion that - It would have been obvious to one of ordinary skill in the art to employ a fixed geometry inlet duct with the configuration above, in order to provide a well known type of inlet for the gas turbine engine of Johnson. If anything, it would appear to one of ordinary skill in the art to employ a variable geometry inlet duct with the FLADE engine in the Johnson reference.

It is clear, as evidenced by the Examiner's statements that fail to cite any reason in any of the references to combine the cited references, that this rejection is based on impermissible hindsight. The court clearly teaches us that a conclusion of obviousness is an error when it is not accompanied by a clearly elucidated factual teachings, suggestions, or incentives from this prior art that shows the propriety of combination. Here, the Examiner has taken two references and combined them without any reason disclosed or even suggested in the prior art.

The CAFC in *In re Rouffet* (CAFC) 47 USPQ2d 1453

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(7/15/1998) stated "To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness." In other words, the Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.

In other words, "the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious. The Board's naked invocation of skill in the art to supply a suggestion to combine the references cited in this case is therefore clearly erroneous. Absent any proper motivation to combine part of Levine's teachings with Freeburg's satellite system, the rejection of Rouffet's claim over these references was improper and is reversed."

Thus, the Applicant respectfully submits that the amendments and remarks above overcome the Examiner's rejections of Claims 1, 3-5, 7, 8, 10-12, 14-22, 41, 43-45, 47, 48, 50-52, 54, 55, 57-59, 61, 63-65, 67, 68 under 35 U.S.C. 103(a) and that these Claims are in condition for allowance.

2. As regards Claims 3, 7, 10, 14, 125, 29, 32, 36, 43, 47, 50, 54, 57, 63, and 67 and their respective dependent Claims, the Applicant respectfully submits that the Johnson (5,404,713) patent does not disclose a fan section which includes axially spaced apart first 32 and second 34 counter-rotatable fans as contended by the Examiner. Johnson (5,404,713) discloses a first fan with circumferentially

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spaced-apart fan rotor blades 32 and a high pressure shaft 26 also rotating a more axially aft second fan illustrated as a axially aft row of circumferentially spaced apart second fan rotor blades 36 having generally radially outwardly extending blade tips 38. The axially aft row of circumferentially spaced apart second fan rotor blades is the same as the core driven fan in the present application because it is driven by the high pressure turbine blades 24. The Applicant has amended Claims 3, 7, 10, 14, 25, 29, 32, 36, 43, 47, 50, 54, 57, 63, and 67 to more particularly point this distinction out between the first and second fan sections and that the first and second counter-rotatable fans are in the same fan section.

Thus, the Applicant respectfully submits that the amendments and remarks above overcome the Examiner's rejections of Claims 3, 7, 10, 14, 25, 29, 32, 36, 43, 47, 50, 54, 57, 63, and 67 and their respective dependent Claims, under 35 U.S.C. 103(a) and that these Claims are in condition for allowance.

3. As regards Claim 48 and it respective dependent Claims 50-52, 54, 55, 57-59, 61, 63-65, 67, 68, the Applicant respectfully submits that the Examiner has failed to show any prior art disclosing alone or in combination an aircraft comprising:

- a gas turbine engine within a fuselage of the aircraft,
- the gas turbine engine comprising;
- a fan section,
- at least one row of FLADE fan blades disposed radially outwardly of and drivingly connected to the fan section,
- the row of FLADE fan blades radially extending across a FLADE duct circumscribing the fan section, and
- an engine inlet including a fan inlet to the fan section

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and an annular FLADE inlet to the FLADE duct; and  
a fixed geometry inlet duct extending between an air intake mounted flush with respect to the fuselage and the engine inlet.

The Examiner has not given any reason for rejecting Claim 48 and its respective dependent Claims 50-52, 54, 55, 57-59, 61, 63-65, 67, and 68. Thus, the Applicant respectfully submits that the amendments and remarks above overcome the Examiner's rejections of Claims 3, 7, 10, 14, 25, 29, 32, 36, 43, 47, 50, 54, 57, 63, and 67 and their respective dependent Claims, under 35 U.S.C. 103(a) and that these Claims are in condition for allowance.

4. As regards Claims 41-48 and 61-67, the Applicant respectfully submits that the Examiner has failed to show any reason in the prior art to combine Johnson with any of the following:

Tindell, which teaches a fixed geometry inlet duct 2 in direct flow communication with the engine 8 inlet;

Creasey et al., which teaches a fixed geometry inlet duct 130 in direct flow communication with the engine inlet 155 and the fixed geometry inlet duct having a two-dimensional convergent/divergent inlet duct passage with convergent and divergent sections, and a throat therebetween and a transition section between the two-dimensional convergent/divergent inlet duct passage and the engine inlet where the engine is a turbojet engine (col. 1, lines 26+),

Bullock, which teaches a fixed geometry inlet duct 2 in direct flow communication with the engine 12 inlet and the fixed geometry inlet duct having a two-dimensional (rectangular, col. 2, lines 30+) convergent/divergent inlet duct passage with convergent and divergent sections, and a



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throat therebetween and a transition section between the two-dimensional convergent/divergent inlet duct passage and the engine inlet 12 where the engine is a gas turbine engine (col. 3, lines 7+); and

Kerry et al., which teaches a fixed geometry inlet duct 37 in direct flow communication with the engine inlet.

The Examiner's conclusion that it would have been obvious to one of ordinary skill in the art to employ a fixed geometry inlet duct with any of the configurations above in order to provide a well known type of inlet for the gas turbine engine of Johnson prior art reference disclosing alone or in combination the fixed geometry inlet duct having a two-dimensional convergent/divergent inlet duct passage with convergent and divergent sections, and a throat therebetween and a transition section between the two-dimensional convergent/divergent inlet duct passage and the engine inlet is totally unsubstantiated. The present Application provides clear evidence, in paragraph 5, to show that variable inlet ducts are taught in the prior art and therefore it would have been obvious to one of ordinary skill in the art to employ a variable not a fixed geometry inlet duct with the gas turbine engine of Johnson or EP 0,567,277,A1.

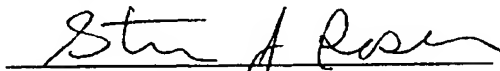
The Examiner has not given any valid reason for rejecting Claim 48 and its respective dependent Claims 50-52, 54, 55, 57-59, 61, 63-65, 67, and 68. Thus, the Applicant respectfully submits that the amendments and remarks above overcome the Examiner's rejections of Claims 3, 7, 10, 14, 25, 29, 32, 36, 43, 47, 50, 54, 57, 63, and 67 and their respective dependent Claims, under 35 U.S.C. 103(a) and that these Claims are in condition for allowance.

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5. The Applicant respectfully submits that the amendments and remarks above overcome the Examiner's rejection of Claims 1, 3-5, 7, 8, 10-12, 14-22, 41, 43-45, 47, 48, 50-52, 54, 55, 57-59, 61, 63-65, 67, 68 under 35 U.S.C. 103(a) as being unpatentable over Johnson (5,404,713) in view of any of Tindell (5,447,283), Creasey et al. (2,956,759), Bullock (3,302,657), and Kerry et al. (2,940,692) and optionally in view of any of EP 0,567,277,A1, Krebs et al. (3,673,802) and Gruner (4,159,624). The Applicant respectfully submits that the amendments and remarks above overcome the Examiner's rejection of Claims 1, 3-5, 7, 8, 10-12, 14-22, 41, 43-45, 47, 48, 50-52, 54, 55, 57-59, 61, 63-65, 67, 68 under 35 U.S.C. 103(a) as being unpatentable over EP 0,567,277,A1 in view of any of Tindell (5,447,283), Creasey et al. (2,956,759), Bullock (3,302,657), and Kerry et al. (2,940,692) and optionally in view of any of Johnson (5,404,713), Krebs et al. (3,673,802) and Gruner (4,159,624). The Applicant respectfully submits that Claims 1, 3-5, 7, 8, 10-12, 14-22, 41, 43-45, 47, 48, 50-52, 54, 55, 57-59, 61, 63-65, 67, 68 are allowable over all of the cited art and are in condition for allowance and request that they be passed on to issue.

Respectfully submitted,



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